

L Number	Hits	Search Text	DB	Time stamp
1	141	(yoshitomi near2 yasunari).in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:19
2	161	(masui near2 hiroaki).in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:20
3	0	(takahashi near2 nobuguki).in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:20
4	268	((yoshitomi near2 yasunari).in.) ((masui near2 hiroaki).in.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:20
5	3583	grain near2 oriented near3 steel	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:21
6	179	((yoshitomi near2 yasunari).in.) ((masui near2 hiroaki).in.)) and (grain near2 oriented near3 steel)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:21
7	10	((yoshitomi near2 yasunari).in.) ((masui near2 hiroaki).in.)) and (grain near2 oriented near3 steel)) and (decarburization same nitriding)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:33
8	70	(grain near2 oriented near3 steel) and (hot same cold same decarburization same nitriding)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:34
9	63	((grain near2 oriented near3 steel) and (hot same cold same decarburization same nitriding)) not (((yoshitomi near2 yasunari).in.) ((masui near2 hiroaki).in.)) and (grain near2 oriented near3 steel)) and (decarburization same nitriding))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:33
10	25	(grain near2 oriented near3 steel) and (hot same cold same decarburization same nitriding same MgO)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/06/30 09:38

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(FILE 'HOME' ENTERED AT 09:42:53 ON 30 JUN 2002)

FILE 'HCAPLUS' ENTERED AT 09:43:03 ON 30 JUN 2002
L1 53 HOT AND COLD AND DECARBURI? AND NITRID? AND SEPARAT?

FILE 'ZCA' ENTERED AT 09:43:45 ON 30 JUN 2002

FILE 'HCAPLUS' ENTERED AT 09:55:10 ON 30 JUN 2002
SELECT PN L1 1-
L2 329 THICK? AND (GRAIN(2A)ORIENT?(3A)STEEL)
L3 148 L2 AND (HOT AND COLD AND ANNEAL?)
L4 140 L3 NOT L1

AN 1993:173400 HCAPLUS
 DN 118:173400
 TI Manufacture of **grain-oriented steel sheet**
 for electromagnetic cores
 IN Boelling, Fritz; Boettcher, Andreas; Hastenrath, Michael; Broelsch, Dieter
 PA Thyssen Stahl AG, Germany
 SO Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 513729	A1	19921119	EP 1992-107972	19920512
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	DE 4116240	A1	19921119	DE 1991-4116240	19910517
	DE 4116240	C2	19930708		
	CA 2068592	AA	19921118	CA 1992-2068592	19920513
	JP 07097629	A2	19950411	JP 1992-146769	19920514
	CN 1069288	A	19930224	CN 1992-104298	19920516
	BR 9201867	A	19930105	BR 1992-1867	19920518
PRAI	DE 1991-4116240		19910517		

AB The sheet or strip 0.1-0.5 mm **thick** is manufd. from steel contg. Si 2.0-4.0, C 0.02-0.10, Mn 0.02-0.15, S and/or Se 0.008-0.08, Al .ltoreq.0.005, and Cu .ltoreq.0.3%. The steel ingot is processed by **hot** rolling, **cold** rolling in .gtoreq.2 stages with intermediate **annealing** at 800-1100.degree. for 30-600 s with quenching (esp. at 100-300.degree./s) before the last rolling stage, and the sheet is finished by recrystn. and decarburization **annealing**, applying a release coating contg. MgO powder, and high-temp. **annealing**. At .ltoreq.3 mo after quenching, the sheet is tempered at 300-700.degree. for 30 s to 15 min. The last stage of sheet rolling is at 50-400.degree. for 40-80% redn.

AN 1980:499802 HCAPLUS
 DN 93:99802
 TI **Grain-orientated silicon steel**
 IN Kohler, Dale Martin; Dahlstrom, Norris Alfred; Taylor, David William
 PA Armco, Inc., USA
 SO Ger. Offen., 21 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2841961	A1	19800410	DE 1978-2841961	19780927
AB	<p>The cast Si steel is hot rolled, annealed, etched, cold rolled, decarburized, and annealed. To improve the cast structure, flow-through annealing in N, H, N-H mixts., inert gas, or decarburization atm. is done between decarburization and final annealing. To obtain a permeability >1850 at 796 A/m and lower core losses for a grain-oriented Si steel, annealing is done 15 s-5 min at 950-1175.degree.. To obtain permeability <1850 at 796 A/m for a randomly grain oriented Si steel, annealing is done 15 s-10 min at 925-1100.degree.. Thus, the steel [67926-13-0] contg. C 0.053, Mn 0.099, S 0.024, Si 2.98, Al 0.033, and N 0.0079% was cast, hot rolled at 1400.degree., annealed 2 min at 1120.degree., cooled during 20 s to 930.degree. and during another 20 s to 25.degree., cold rolled to a sheet 0.345 mm thick, decarburized 3 min in moist H having a dew point of 60.degree. at 830.degree., annealed in flowing N 40 s at 1120.degree., covered with MgO, and annealed 30 h at 1200.degree.. The core loss at 1.7 T and 60 Hz was 1.691 W/kg, and permeability was 1894 at 796 A/m. When no annealing in the N atm. was done, the corresponding values were 1.733 W/kg and 1890.</p>				

AN 1991:564019 HCAPLUS
 DN 115:164019
 TI Manufacture of silicon steel sheet with secondary recrystallization for
 electromagnetic cores
 IN Kobayashi, Takashi; Mizuguchi, Masayoshi
 PA Nippon Steel Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02258928	A2	19901019	JP 1989-79990	19890330
AB	<p> A steel slab contg. C 0.025-0.075, Si 2.5-4.5, S .ltoreq.0.012, Al 0.010-0.060, N .ltoreq.0.010, and Mn 0.05-0.45% is hot rolled at .ltoreq.1200.degree., cold rolled with optional intermediate annealing, decarburization annealed, and finish annealed. Secondary recrystn. grain boundary after the decarburization annealing is controlled when the steel strip is locally heated at 500-850.degree. in an atm. contg. NH₃, or processed to induce local strains without recrystn. and then heated for a short time at 500-850.degree. in the atm. contg. NH₃. The resulting zones of local nitridation and deformation have width .ltoreq.300 .mu.m, and are sepd. by zones 5-30 mm wide in the rolling direction. Thus, sheets (contg. C 0.05, Si 3.0, S 0.007, Al 0.032, N 0.082, and Mn 0.15%) were locally nitrided, and showed electromagnetic induction of 1.94 T and core loss (at 1.7 T and 50 Hz) of 0.78 W/kg. </p>				